

ABSTRACT

A method of chemically cleaning normally immersed suction driven filtering membranes involves backwashing a chemical cleaner through the membranes while the tank is empty in repeated pulses in which the chemical cleaner is pumped to the membranes separated by waiting periods in which chemical cleaner is not pumped to the membranes. The duration and frequency of the pulses is preferably chosen to provide an appropriate contact time of the chemical, preferably without allowing the membranes to dry between pulses and without using excessive amounts of chemical. In other aspects, such membranes preferably used for filtering water to produce potable water in a batch process are backwashed with a chemical cleaner substantially at the same time as the tank is being drained. The chemical cleaner is optionally supplied in pulses. In other aspects, chemical cleaner backwashes are started before the membranes foul significantly and are repeated at least once per week to reduce the rate of decline in the permeability of the membranes so that intensive recovery cleaning is required less frequently. When performed in situ, each cleaning event comprises (a) stopping permeation and any agitation of the membranes, (b) backwashing the membranes with a chemical cleaner in repeated pulses and (c) resuming agitation, if any, and permeation. The pulses last for between 10 seconds and 100 seconds and there is a time between pulses between 50 seconds and 6 minutes. Each cleaning event typically involves between 5 and 20 pulses.